

REMARKS

This application has been carefully reviewed in light of the Office Action mailed on October 4, 2002. Claims 2, 3, and 16 have been canceled. The application now contains claims 1, 4-15, and 17-54. Claims 1, 14, and 38 have been amended. A marked-up version of this claim, showing changes made, is attached hereto as Appendix A. Applicants reserve the right to pursue the original claim and other claims in this and other applications. Reconsideration of the above-referenced application in light of the amendments and following remarks is requested.

Claim 1 has been amended to recite a capacitor comprising, "an electrode having a layer comprising platinum-rhodium . . . a layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer comprising platinum-rhodium comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum." Support is found in Applicants' specification on pages 13-14.

Similarly, claim 14 has been amended to recite a capacitor with "a lower electrode having a layer comprising platinum-rhodium material and a layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer comprising platinum-rhodium is an alloy comprising approximately 3 to approximately 40 percent rhodium." Support is found in Applicants' specification on pages 13-14.

Claim 38 has been amended to recite a capacitor comprising "a lower electrode having a layer comprising titanium material, an alloy layer on top of the layer comprising titanium, wherein the alloy layer comprises approximately 60 to approximately 97 percent platinum and approximately 3 to approximately 40 percent rhodium, and a layer comprising platinum material on top of the alloy layer." Support is found in Applicants' specification on page 16.

Claims 1 and 14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Okutoh et al. (U.S. Patent No. 6,201,271) ("Okutoh I"). Reconsideration is respectfully requested.

Okutoh I fails to anticipate the present invention. Okutoh I does not teach or suggest an electrode with a platinum-rhodium layer that "comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum," as claim 1 recites, nor a lower electrode having a platinum-rhodium layer "comprising approximately 3 to approximately 40 percent rhodium," as claim 14 recites. Further, Okutoh I is directed to forming an upper electrode and not a lower electrode as recited by claim 14. Accordingly, the rejection of claims 1 and 14 should be withdrawn.

Claims 1 and 14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Okutoh et al. (U.S. Patent No. 6,180,974) ("Okutoh II"). Reconsideration is respectfully requested.

Okutoh II fails to anticipate the present invention. For similar reasons described above, Okutoh II does not teach or suggest an electrode with a platinum-rhodium layer that "comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum," as claim 1 recites, nor a lower electrode having a platinum-rhodium layer "comprising approximately 3 to approximately 40 percent rhodium," as claim 14 recites. Accordingly, the rejection of claims 1 and 14 based on Okutoh II should also be withdrawn.

Claims 1 and 14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Desu et al. (U.S. Patent No. 5,790,366) ("Desu"). Reconsideration is respectfully requested.

Desu fails to anticipate the present invention. Desu does not teach or suggest an electrode with a platinum-rhodium layer that "comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum," as claim 1 recites, nor a lower electrode having a platinum-rhodium layer "comprising

approximately 3 to approximately 40 percent rhodium,” as claim 14 recites. Accordingly, the rejection of claims 1 and 14 based on Desu should similarly be withdrawn.

Claims 1-54 stand rejected under the judicially doctrine of obviousness double-patenting over claims 1-54 of Agarwal et al. (U.S. Patent No. 6,297,527) (“Agarwal”). Reconsideration is respectfully requested.

Applicants respectfully disagree with the Office Action’s contention that the claims of this case are obvious over the claims in Agarwal. The purportedly conflicting claims are not identical nor would it have been obvious to one of ordinary skill in the art to substitute a platinum material for the lower electrode of Agarwal with other metals or other compounds comprising platinum material or platinum-rhodium material as a design alternative. It is obvious only when viewed in light of Applicants’ own specification. The motivation to use other materials is found in Applicants’ own specification on page 12 and not the prior art.

For example, claim 1 recites “an electrode having a layer comprising platinum-rhodium material and a layer comprising platinum material . . . wherein the layer comprising platinum-rhodium comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum.” Conversely, Agarwal’s claim 1 recites “[a] ferroelectric or high dielectric constant capacitor, comprising an electrode having a platinum-rhodium layer and a layer consisting of platinum material.” Therefore, claim 1 is not identical nor obvious to Agarwal’s claim 1. Claims 4-13 depend from claim 1 and are similarly not identical nor obvious to Agarwal’s claims 4-13.

Claim 14 recites “a lower electrode having a layer comprising platinum-rhodium material and a layer comprising platinum material . . . wherein the layer comprising platinum-rhodium is an alloy comprising approximately 3 to approximately 40 percent rhodium.” Conversely, Agarwal’s claim 14 recites “a lower electrode having a platinum-rhodium layer and layer consisting of platinum material.” Therefore, claim 14 is not identical nor obvious to Agarwal’s claim 14. Claims 15 and 17-37 depend from claim 14

and are similarly not identical nor obvious to Agarwal's claims 15 and 17-37.

Similarly, claim 38 recites "a lower electrode having a layer comprising titanium material . . . and a layer comprising platinum material." Conversely, Agarwal's claim 38 recites a "lower electrode having a titanium layer . . . and a platinum layer." Therefore, claim 38 is not identical nor obvious to Agarwal's claim 38. Claims 39-54 depend from claim 38 and are similarly not identical nor obvious to Agarwal's claims 39-54.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

By 

Thomas J. D'Amico

Registration No.: 28,371

DICKSTEIN SHAPIRO MORIN &
OSHINSKY LLP

2101 L Street NW

Washington, DC 20037-1526

(202) 785-9700

Attorneys for Applicant

APPENDIX A

1. (amended) A [ferroelectric or high dielectric constant] capacitor, comprising:

an electrode having a layer comprising platinum-rhodium material [layer] and a layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer comprising platinum-rhodium comprises approximately 3 to approximately 40 percent rhodium and approximately 60 to approximately 97 percent platinum.

14. (amended) A capacitor, comprising:

a lower electrode having a layer comprising platinum-rhodium material [layer] and a layer comprising platinum material on top of the platinum-rhodium layer, wherein the layer comprising platinum-rhodium is an alloy comprising approximately 3 to approximately 40 percent rhodium;

an upper electrode; and

a dielectric layer of a ferroelectric or high dielectric constant dielectric material formed between said lower and upper electrodes, wherein said dielectric layer is in contact with the platinum layer of said lower electrode.

38. (amended) A capacitor, comprising:

a lower electrode having a layer comprising titanium material [layer], an alloy layer on top of the layer comprising titanium [layer], wherein the alloy layer comprises approximately 60 to approximately 97 percent platinum and approximately 3 to

approximately 40 percent rhodium, and a layer comprising platinum material on top of the alloy layer;

an upper electrode; and

a dielectric layer of a ferroelectric or high dielectric constant dielectric material formed between said lower and upper electrodes, wherein said dielectric layer is in contact with the layer comprising platinum material of said lower electrode.